THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 16

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ROBERT E. KRASKA

Appeal No. 1997-3513
Application 08/263,700

ON BRIEF

Before CALVERT, PATE, and JENNIFER D. BAHR, Administrative Patent Judges.

PATE, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the examiner's refusal to allow claims 8, 10, 16, 18 and 19 as amended after final rejection. These are the only claims remaining in the application.

The claimed invention is directed to a hermetic seal for a battery for use in an implanted medical device. With such a device, it is of some importance that the battery remain sealed and not leak electrolytic material into contact with the user's body. Appellant provides such a seal by placing a smooth spherical member having an R_c hardness of about 55 in an annealed stainless steel electrolytic-filling passageway. Claims 19 and 16 are directed to a method for forming the hermetic seal.

The claims may be further understood with reference to the text of the appealed claims as set out in appellant's appendix to the appeal brief.

The References

The references of record relied upon by the examiner as evidence of obviousness are:

Rozmus et al. (Rozmus)	4,478,788	Oct. 23, 1984
Sato et al. (Sato)	5,004,656	Apr. 2, 1991
Chaney, Jr. et al. (Chaney)	5,114,808	May 19, 1992

The Rejections

Claims 18, 8 and 10 stand rejected under 35 U.S.C. § 103 as unpatentable over Sato in view of Chaney and Rozmus. The entire rationale for this rejection is set out in detail on pages 3 through 7 of the examiner's answer.

Claims 19 and 16 stand rejected under 35 U.S.C. § 103 as unpatentable over Sato in view of Chaney and Rozmus. For the details of this rejection, reference is made to pages 7 through 9 of the examiner's answer.

OPINION

We have carefully reviewed the rejections on appeal in light of the arguments of the appellant and the examiner. As a consequence of this review, we have determined that the applied prior art does not establish the prima facie obviousness of the claims on appeal. Accordingly, the rejections of all claims on appeal are reversed. Our reasons follow.

It is our finding that Sato discloses a sealed battery pack with a stainless steel case. The electrolyte in Sato is added through a cylindrical port 12. In Figures 2 through 6, Sato discloses hermetically sealing the passageway 12 with a spherical sealing member. Generally, Sato discloses two

distinct spherical members. In Examples 1 through 4, the sealing member is a spherical body of 2.3 mm in diameter made of polytetrafluoroethylene. See column 5, lines 61 through column 6, line 7. The Examples 5 through 8 utilize the structure of Examples 1 through 4, but in Examples 5 through 8 the spherical member is made of stainless steel. In both embodiments, the case and passageway are made of stainless steel. Considering that Sato discloses both a polymer spherical sealing member and a stainless steel spherical member, it is difficult to generalize about whether Sato does indeed represent a recognition in the art that this spherical sealing member should be made harder than the passageway.

The examiner, in part, bases the rejection on the inherent or implicit finding that the sphere of Sato is harder than the material of the passageway due to the “reactive stress” language used in the Sato specification at two locations. The more detailed of these passages in the specification reads as follows:

> Further described in detail, in the embodiments of the present invention, since the first sealing member 13 is inserted in the electrolyte charging opening 12 by press fitting to the inner surface of the surrounding wall of the cylindrical or taper cylindrical shaped opening 12, the circumference

> wall of the electrolyte charging opening 12 is expanded by the press fitting insertion of the first sealing member 13 so that the reactive stress for recovering the peripheral wall of the electrolyte charging opening 12 is applied to the contacted portion of the first sealing member 13, thereby enhancing of the sealing function between the peripheral wall of the electrolyte charging opening 12 and the first sealing member 13. (column 4, lines 6-19).

In our view, a close reading of this passage does not support the examiner's finding that Sato inherently teaches a ball of harder material in the passageway. We note the language that the opening 12 is expanded in that "reactive stress" for recovering the peripheral wall of the electrolyte charging opening 12 is applied to the "contacted portion" of the first sealing member. In our view, this wording raises the possibility that Sato is relying on elastic yielding of the passageway in that the passageway expands elastically to allow the ball to seat therein, and the reactive stress is the elastic clamping force of the passageway on the spherical sealing member 13. Therefore, it cannot be said with any certainty that the specification of Sato supports the conclusion that the passageway deforms plastically or is allowed to "flow" around the ball, forming a seal therewith, as required by the independent claims on appeal. Thus, the

examiner's finding that Sato implicitly requires a ball harder than the passageway material is based on assumption or speculation. A proper obviousness determination, under 35 U.S.C. § 103, cannot be based on assumptions or speculation.

With respect to the disclosure of Chaney, we note in column 4, starting at line 34, that the passageway liner 29 can be either resilient or nonresilient and can be made of many suggested materials. Likewise, the ball 56 of Chaney can be made either resilient or nonresilient and of various materials. Thus, Chaney does not provide motivation or a suggestion for making both the ball hard and the passageway hard but ensuring that the
ball is much harder than the passageway. In fact, the Chaney disclosure would suggest the ball can be made harder than the passageway or vice versa.

On the other hand, Rozmus does show sealing a passageway with a ball, the ball being made of steel, and thus being much harder than the passageway material which is disclosed as copper. We agree with the examiner that Rozmus discloses the plastic flow of the softer material around the ball providing a proper seal. However, if one of ordinary skill were to

apply this teaching to Sato, and use a soft material such as copper for the passageway of Sato, the claimed invention would not be the result. Additionally, we note the presence in the claims of limitations directed to the specific hardness of the ball and the specific smoothness of the surface area. With respect to these limitations, the examiner has stated that optimizing the hardness of the material, the size, the diameter and the smoothness is well within the purview of the artisan, inasmuch as "[o]nce the general conditions of a claim are known[,] to optimize parameters is obvious." (answer, page 6). However, in our view, as discussed above, the prior art cited does not indicate the direction the parameter should be changed for any improved result. For example, in Sato, both polymer and steel sealing members are suggested. Furthermore, it is unclear whether Sato contemplates plastic deformation of the passageway or merely the elastic expansion thereof. With respect to Chaney, both resilient and nonresilient spherical sealing members are disclosed. Finally, Rozmus uses a passageway material which, as pointed out by appellant in the reply brief, is orders of magnitude softer than the passageway material claimed (page 4,

n.1). The teachings in the three references simply do not indicate to one of ordinary skill how to improve the parameters, the optimization of which the examiner has indicated would have been obvious. Accordingly, it is our determination that it would not have been obvious from the applied prior art to utilize a ball of the claimed hardness with the claimed smoothness upon its exterior surface.

For the foregoing reasons, a prima facie case of obviousness has not been established. The rejections on appeal are reversed.

REVERSED

Ian A. Calvert Administrative Patent Judge	)	
William F. Pate Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
Jennifer D. Bahr Administrative Patent Judge	)	

WFP:tdl

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